



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,660	08/19/2003	James William Otter	60246-229	5263
26096	7590	08/28/2006	EXAMINER	
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			DUONG, THO V	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/643,660	Applicant(s) OTTER, JAMES WILLIAM	
	Examiner Tho v. Duong	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 June 2006.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 27-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Receipt of applicant's amendment filed 6/1/06 is acknowledged. Claims 27-43 are pending. Claims 30-31 and 38-39 were inadvertently left out in the group of claims being rejected in the previous Office Action. These claims 30-31 and 38-39 should be included in the group of claims being rejected under 35 U.S.C 103 (a) as being unpatentable over Boah (US 4,953,511) in view of R. L. Keneipp Jr. (US 3,307,996). (Evidence is shown on page 3, of the Office Action mailed 3/8/06).

### ***Response to Arguments***

Applicant's arguments filed 6/1/06 have been fully considered but they are not persuasive. Applicant's argument that references to Keneipp and Boah are not in the same field or not reasonably pertinent to the applicant's particular problem, has been very carefully considered but is deemed to be persuasive. Applicant argues that Boah is directed to a heat exchanger while Keneipp is directed to a natural gas or pipe, tube line. Therefore, they are not in the same field of endeavor. However, at a smaller scale, both the heat exchanger of Boah and Keneipp are in analogous art, in a sense that both have to deal with a corrosion problem due to a corrosive fluid such as acid, on a steel conduit which functions to convey a corrosive fluid. In order to solve the corrosion problem, Boah discloses the use of polypropylene film coating on the steel conduit while Keneipp (column 3, lines 36-45) suggests that either polypropylene or polyester film coating can be used to protect the steel conduit from corrosion, especially against corrosive aqueous fluids. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Keneipp's teaching in Boah's device for a

Art Unit: 3753

purpose of providing an alternative material film coating to protect the steel conduit from corrosion, especially against corrosive aqueous fluids.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this instant case, both Boah and Keneipp have to deal with a corrosion problem on steel conduit due to corrosive fluids such as acids. Given the fact that Boah discloses the use of polypropylene film coating to protect the steel conduit from corrosion, and Keneipp discloses the use of both polypropylene and polyester as an alternative material, it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made to employ either polypropylene or polyester film coating as taught by Keneipp in Boah's device for a purpose of providing an alternative material film coating to protect the steel conduit from corrosion.

Furthermore, applicant's argument that the combination device of Boah and Keneipp does not disclose that the film coating is applied as a melted polymer and, a melted state and a second film state are structural differences. The argument is not found to be persuasive because as the final product, the heat exchanger apparatus as claimed does not have the polymer in melted state but only in a film state. The step of using melted polymer to form film may be

Art Unit: 3753

different from Boah's process, but the final product of the prior art, which has a polymer film coating on the heat exchanger is the same with the product in the product-by-process claim.

Regarding to the selection of other materials such as polybutylene terephthalate or polyethylene terephthalate or polyetherimide or polyethersulfone or polysulfone or polyimide, applicant still does not provide that the selected material has any criticality or solves any particular purpose different than of polyester or polypropylene. In fact, applicant discloses in paragraph 19 in the specification that, the thermoplastic polymer is polyester, polybutylene terephthalate, polyethylene terephthalate, polyetherimide, polyethersulfone, polysulfone, and polyimide can be used as the film material. Without any criticality or to solve any particular purpose, these listed materials are just obvious equivalent of thermoplastic polymer and deemed to be a design consideration, which fails to patentable distinguish over the prior art of Boah and Keneipp. Applicant has cited paragraph 4 to show several drawbacks of polypropylene. However, these drawbacks come from a different method of forming the polymer on the heat exchanger, which is irrelevant to the claimed apparatus.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3753

Claims 27-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boah (US 4,953,511) in view of R. L. Keneipp Jr. (US 3,307,996). Boah discloses (figures 1,5-6 and column 2, lines 37-43) a heat exchanger component comprising a plurality of metal condensing flow passages (62) having a substantially flat metal surface (61) and a film (53) of polymer such as polyolefin. With regarding claims 33 and 41, Boah discloses (column 4, lines 34-43) that the thickness of the coating layer (53) is less than 6.0 mils, which is within the claimed range. Boah substantially discloses all of applicant's claimed invention as discussed above except for the limitation that the film is made of polyester or polybutylene terephthalate or polyethylene terephthalate or polyetherimide or polyethersulfone or polysulfone or polyimide. Keneipp discloses (figure 7 and column 3, lines 39-45) polyethylene, polypropylene or polyester have been known to use as an anticorrosive coating material for a steel conduit, which is subjected to corrosive environment for a purpose preventing steel material from corrosion due to a corrosive aqueous fluid. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use either polyester or polyethylene or polypropylene as an anticorrosive coating material for steel, which is subjected to a corrosive environment, for a purpose of preventing steel material from corrosion due to a corrosive aqueous fluid. Regarding claims 28 and 36, given the fact that the materials are claimed as members of a Markush group (original claim 16), which all alternatives have a common property or activity (MPEP Annex B f(i)(ii) and (iii)), it appears that the hydrophilic effect of the heat exchanger surface is equally achieved with the use of any material in the Markush group. Furthermore, applicant has not disclosed any criticality or any particular purpose for having the claimed materials or polyester. Therefore, the use of polybutylene terephthalate or polyethylene terephthalate or polyetherimide or

Art Unit: 3753

polyethersulfone or polysulfone or polyimide is deemed to be a design consideration, which fails to patentably distinguish over the prior art of Boah in view of Keneipp. As regarding claims 27-31 and 36-39, the method of forming the device (a film adheres to the surface by a roller assembly and a polymer heater) is not germane to the issue of patentability of the device itself. “Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In this instant application, the heat exchanger component in the product by process claim is the same as or obvious from the heat exchanger component (62) of Boah, in which a film of polymer is directly adhering to the metal surface. The steps of using roller, heating and melting pellets to form film may be different from Boah’s process, but the final product of the prior art is the same with the product in the product-by-process claim.

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

Art Unit: 3753

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

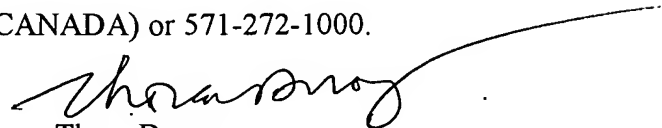
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho v. Duong whose telephone number is 571-272-4793. The examiner can normally be reached on M-F (first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keasel Eric can be reached on 571-272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TD

TD  
August 18, 2006

  
Tho v Duong  
Primary Examiner  
Art Unit 3753